

REMARKS

Claims 1 and 2 are pending in this case. Claims 3-5 are newly added. No new matter is involved.

Claim Rejection under 35 USC §102

Claim 1 stands rejected under 35 U.S.C. 102(b) as being anticipated by Kolenc (U.S. Pat. No. 5,215,286).

The present invention is a controller having a valve body (1), a casing (2) fixed to the upper portion of the valve body (1), an operating rod (3) disposed in an upper inside portion of the casing (2) and movable upward and downward, a drive device (4) for moving the operating rod (3) upward and downward, and a force amplifying device (5) provided in a lower inside portion of the casing (2) for transmitting a force acting on the operating rod (3) to a valve stem (16). The force amplifying device (5) further includes a tapered member (41) extending vertically downward from the lower end of an operating rod (3), a disk member (42) provided at the upper end of a valve stem (16), and front and rear pivotal members (43 and 44) arranged between the two members (41 and 42) and opposed to each other with the tapered member (41) positioned therebetween. The pivotal members (43 and 44) are pivotally movable about respective pivots (45 and 46). Each of the pivotal members (43 and 44) has a plate body (43a and 44a), an upper contact face (43b and 44b) formed on an upper portion of the body and in contact with a tapered face of the tapered member (41), and a lower contact face (43c and 44c) formed on a lower portion of the body and bearing on the upper surface of the disk member (42). The lower contact face (43c and 44c) of each pivotal member is in the form of a

circular-arc cam face centered about a center line positioned away from the axis of the pivot (45 and 46).

Kolenc describes a high pressure shut-off valve having a body and valve assembly (10). The main valve assembly (10) comprises a main body element (16) which has a main inwardly extending chamber (18) with an inlet opening port (20) which is operated by a motor operator assembly (12). An upper end of the stem portion (72) is engaged by the lower end of an actuating rod member (78) which extends downwardly from the assembly (12). The actuator assembly (12) has a power cylinder (80) which is formed by a tubular sleeve (82). Positioned within the tubular sleeve (82) for axial sliding movement therein is a piston member (98) having a sleeve-like extension (100) which extends upwardly therefrom. A downward force on the piston member (98) is normally conducted through to the actuator rod (78) by a motion multiplying mechanism (116). The motion multiplying mechanism (116) includes a pair of lever elements (118 and 120) which are pivotally mounted from a lower wall (86). Connected to the underside of piston (98) is a wear plate (130) which is of an annular configuration and extends circumferentially about the piston (98) on the underside thereof. A pressure plate element (140) is mounted on the upper end of the actuator rod (78).

However, the Examiner asserts that wear plate (130) is smaller than piston (98) and therefore tapered. Applicants respectfully disagree with the Examiner. Tapered member (41) of the present invention in no way resembles the wear plate (130) of Kolenc.

As indicated in page 9, lines 21-24 of the specification,

“The tapered member 41 is made from a rectangular parallelepiped by giving a slanting face to each of its front and rear sides. The slanting faces make an angle, for example, of 90 deg therebetween.”

Therefore, the present invention patentably distinguishes over the prior art relied upon for two reasons. First, in Kolenc, since “element 130 is smaller than element 98”, so it may be argued that it is tapered. In contrast, the tapered member of the present invention is smoothly tapered unlike Kolenc which has a stepped profile.

Further, in the present invention, a circular-arc cam face is centered about a center line positioned away from the axis of the pivot. By contrast, a circular arc (outside portion adjacent element 128 and 128) in Kolenc is not a cam surface. The surface (134, 136) in Kolenc corresponding to the cam surface of the present invention is a flat surface.

Therefore, claim 1 patentably distinguishes over the prior art of record by reciting,

“A controller comprising a valve body having a fluid channel openable and closable with reciprocating upward and downward movement of a valve stem, a casing fixed to an upper portion of the valve body, an operating rod provided in an upper inside portion of the casing and movable upward and downward, drive means for moving the operating rod upward and downward, and force amplifying means provided in a lower inside portion of the casing for transmitting a force acting on the operating rod to the valve stem upon amplification, the controller being characterized in that the force amplifying means comprises a tapered member extending vertically downward from a lower end of the operating rod, a disk member provided at an upper end of the valve stem, and a first and a second pivotal member arranged between the two members and opposed to each other with the tapered member positioned therebetween, each of the first and second pivotal members being pivotally movable about an axis of a pivot extending through a lower portion thereof, each of the pivotal members having a plate body, an upper contact face formed on an upper portion of the body and in bearing contact with a tapered face of the tapered member, and a lower contact face formed on a lower portion of the body and bearing

on an upper surface of the disk member, the lower contact face of each pivotal member being in the form of a circular-arc cam face centered about a center line positioned away from the axis of the pivot." (Emphasis Added)

Therefore, withdrawal of the rejection of claim 1 under 35 U.S.C. 102(b) as being anticipated by Kolenc (U.S. Pat. No. 5,215,286) is respectfully requested.

Conclusion

In view of the aforementioned amendments and accompanying remarks, claims 1-5, as amended, are believed to be allowable and in condition for allowance, which action, at an early date, is respectfully requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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